IN THE CLAIMS:

The following listing of the pending claims replaces all earlier such listings and all earlier versions.

Claims 1-55 (previously canceled)

Claim 56 (currently amended): A sending method of sending a data packet from a source node to a destination node through a switching network, the data packet including user data and additional data, said method comprising the steps of:

determining a routing header defining a path to be followed on the network by the data packet, wherein the determining step is performed independently [[from]] of the transmission mode of the data packet, connected or non-connected,

selecting a virtual channel representing a connection between the source node and the destination node; and

sending data packet with additional data, said additional data comprising the ~~defined path~~ routing header, the selected virtual channel and an identifier of the source node,

wherein the combination of the virtual channel and the source node identifier makes the connection unique in the switching network, and

wherein data representing at least one of the virtual channel and the source node identifier allows the destination node to determine the transmission mode of the data packet, connected or non-connected.

Claim 57 (previously presented): A sending method according to claim 56, wherein the data packet includes route information representing each node on the defined path in the network through which the user data must pass in order to reach the destination node.

Claim 58 (currently amended): A reception method of receiving a data packet transmitted from a source node to a destination node through a switching network, the switching network being adapted to carry data in a connected mode and a non-connected mode, the data packet including user data and additional data,

wherein additional data comprising a virtual channel, a source node identifier and a routing header, said routing header defining a path for the data packet on the net work and being determined independently of the transmission mode of the data packet, connected or non-connected,

said reception method comprising the steps of:

reading the additional data ~~said additional data comprising a defined path for the data packet on the network, the selected virtual channel and the source node identifier,~~ ; and

determining the transmission mode of the data packet, connected or non-connected, on the basis of data representing at least one of the virtual channel and the source node identifier.

~~wherein the packet routes in the switching network according to the same defined path whatever the determined transmission mode.~~

Claim 59 (previously presented): A reception method according to claim 58, wherein the destination node has a memory in which additional reference data are stored and said determining step includes comparing additional reference data and the additional data read in said reading step.

Claim 60 (previously presented): A reception method according to claim 59, wherein during said determining step, the transmission mode is determined as connected when the additional reference data and the read additional data are identical.

Claim 61 (previously presented): A reception method according to claim 58, wherein, when during said determining step, it is determined that the transmission mode is non-connected, said reception method further comprises the step of reading, in a first packet, the size of a message to be received from the source node, the first packet being one from several packets constituting the message.

Claim 62 (previously presented): A reception method according to claim 61, further comprising the step of reserving sufficient memory to store the entire message according to the read size of the message.

Claim 63 (previously presented): A reception method according to claim 62, further comprising the step of erasing the additional data after said reserving step has been performed.

Claim 64 (previously presented): A reception method according to claim 58, further comprising the step of sending an acknowledgment packet to the source node, the acknowledgment packet including the virtual channel used for acknowledging reception.

Claim 65 (currently amended): A sending device for sending a data packet from a source node to a destination node through a switching network, the data packet including user data and additional data, said device comprising:

determination meams for determining a routing header defining ~~means for defining~~ a path to be followed on the network by the data packet, wherein the determination is performed independently [[from]] of the transmission mode of the data packet, connected or non-connected;

selection means for selecting a virtual channel representing a connection between the source node and the destination node; and

sending means for sending the data packet with additional data, said additional data comprising the ~~defined path~~ routing header, the selected virtual channel and an identifier of the source node,

wherein the combination of the virtual channel and the source node identifier makes the connection unique in the switching network, and

wherein data representing at least one of the virtual channel and the source node identifier allows the destination node to determine the transmission mode of the data packet, connected or non-connected.

Claim 66 (previously presented): A sending device according to claim 65, wherein the data packet includes route information representing each node on the defined path in the network through which the user data must pass in order to reach the destination node.

Claim 67 (currently amended): A reception device for receiving a data packet transmitted from a source node to a destination node through a switching network, the switching network being adapted to carry data in a connected mode and a non-connected mode, the data packet including user data and additional data,

wherein additional data comprising a virtual channel, a source node identifier and a routing header, said routing header defining a path for the data packet on the network and being determined independently of the transmission mode of the data packet, connected or non-connected,

said device comprising:

first reading means for reading the additional data, ~~the additional data comprising a defined path for the data packet on the network, the selected virtual channel and the source node identifier;~~, and

determination means for determining the transmission mode of the data packet, connected or non-connected, on the basis of data representing at least one of the virtual channel and the source node identifier,

~~wherein the packet routes in the switching network according to the same defined path whatever the determined transmission mode.~~

Claim 68 (previously presented): A reception device according to claim 67, wherein the destination node has a memory in which additional reference data are stored and said determination means includes comparison means for comparing the additional reference data and the additional data read by said first reading means.

Claim 69 (previously presented): A reception device according to claim 68, wherein the transmission mode is determined as connected when the additional reference data and the read additional data are identical.

Claim 70 (previously presented): A reception device according to claim 67, further comprising second reading means for reading, when the transmission mode is non-connected, in a first packet, the size of a message to be received from the source node, the first packet being one from among several packets constituting the message.

Claim 71 (previously presented): A reception device according to claim 70, further comprising reservation means for reserving sufficient memory to store the entire message according to the read size of the message.

Claim 72 (previously presented): A reception device according to claim 71, further comprising erasing means for erasing the additional data.

Claim 73 (previously presented): A reception device according to claim 67, further comprising sending means for sending an acknowledgment packet to the source node, the acknowledgment packet including the virtual channel used for acknowledging reception.